

## **REMARKS**

After amendment, claims 1-42 and 47-61 remain pending in the present application, claims 43-46 having been cancelled. The amendments to claim 31 and 51 are made to address the Examiner's 35 U.S.C. §112, second paragraph rejection of those claims. No other amendment has been made to the instant application to place the application in condition for allowance. No new matter has been added to the application by way of the present amendment.

The Examiner had variously objected to or rejected the originally filed claims of the instant application under 35 U.S.C. §112, second paragraph and §103 for the reasons stated in the October 2, 2007 office action. Applicants shall address each of the Examiner's rejections in the sections which follow.

### **The 35 USC § 112, Second Paragraph Rejection**

The Examiner rejected claims 31 and 51 under 35 U.S.C. §112, second paragraph for the reasons which are presented on pages 2 and 3 of the October 2, 2007 office action. In response, Applicants have amended claims 31 and 51 to delete the language to which the Examiner objected. For claim 31, reference to lithium sulphate preferably being the sole source of lithium has been deleted and for claim 51, reference to red and white table wines has been deleted. It is respectfully submitted that amended claims 31 and 51 now meet the requirements of 35 U.S.C. §112, second paragraph.

### **The 35 USC § 103 Rejection**

The Examiner has rejected originally filed claims 1-52 under 35 U.S.C. § 103 variously over "A survey on the composition of mineral water and identification of natural mineral water" ("Luk") in view Someya, U.S. patent no. 4,540,584 ("Someya"), Tuffley, international patent publication WO02/00043 ("Tuffley"), Lindon, U.S. Patent no. 4,325,975, Mehansho, et al., U.S.

patent no. 7,090,878 (Mehansho) and Dyrr, et al., international patent publication WO 01/52672 ("Dyrr"), for the reasons which are stated in the October, 2007 office action on pages 3-7. Separately, the Examiner has rejected originally filed claims 53-61 under 35 U.S.C. §103 variously over the above-referenced publications, further in view of Jakubowiz, DE Publication 19700368 ("Jukobowiz") for the reasons which are set forth in the October 2007 office action on pages 7-8. As presented in the following paragraphs, Applicants respectfully submit that the presently claimed invention is non-obvious and patentable over the teachings of the cited references.

### *The Rejection of Claims 1-52*

The Examiner has rejected originally presented claims 1-52 as being obvious over the teachings of the cited prior art Luk, in view of Someya, Tuffley, Lindon, Mehansho and Dyrr as set forth on pages 3-7 of the October, 2007 office action. The Examiner states that Luk provides the composition of about 60 mineral water samples. Moreover, the Examiner takes the position that Luk discloses amounts in group a and b of the present invention within the claimed amounts except for phosphorous, elemental levels of which are not measured. The Examiner states that in connection with the lack of reference to phosphorous in Luk, Someya discloses that it is known to make a beverage from coral sand, which contains phosphorous.

The examiner further points to the disclosures of Tuffley, Mehansho, Lindon and Dyrr to provide further evidence of non-obviousness of the present invention. In particular, the Examiner states that all of the minerals of group a and b of the present invention are disclosed in those references. Further, the Examiner argues that "The particular amounts are seen as being within the skill of the ordinary worker" and "the discovery of an optimum value of a result effective variable is ordinarily within the skill of the art." citing *In re Boesch*.

The Examiner further states that "In developing a water product containing minerals, properties such as taste and nutrition are important. It appears that the precise ingredients as well as their proportions affect the taste and nutrition of the product, and thus are result effective

variables, which one of ordinary skill in the art would routinely optimize."

The Examiner also states that in the case of new recipes or formulas for cooking foods which involve the addition or elimination of common ingredients ... do not amount to invention .." " .. there is nothing patentable unless the applicant .. further establishes a co-action or cooperative relationship between the selected ingredients which produces a new, unexpected, and useful function."

It is the examiner's assessment that in the instant invention "Each ingredient is used for its known function. Nothing has been shown as to a co-action of ingredients that produce anything new or unexpected." Adding particular amounts of ingredients to make a beverage taste good is within the skill of the ordinary worker as this is a method of trial and error. Therefore, it would have been obvious to make a beverage containing known minerals in particular amounts as shown by the combined references."

In response, Applicant provides the following, evidencing that the present invention, as set forth in pending claims 1-42 and 47-52, is clearly non-obvious over the cited prior art.

Minerals are known to impart an unpleasant taste. (see page 2 lines 16 - 17 of the present specification). Tuffley teaches us that it is generally considered that providing a range of elements to an individual for health purposes involves the ingestion of an unpleasant tasting supplement (see page 1 line 16 - 17). To overcome this typically flavouring agent will be added to mask this taste see page 3 line 24 to 30.

Mehansho refers in column 1 lines 49 - 56 refers to "problematic organoleptic properties associated with such minerals, such as significant off-flavors." As such, Mehanso evidences the difficulty of the problem which the present invention solves.

It is asserted by applicant that the unpleasant flavors of minerals is well known. Typically compounds are used to mask these unpleasant taste (see page 2 lines 17 - 18 - sugars,

acids and flavours of the present specification.) Tuffey tells us at page 1 lines 25 to 28 low pH improves palatability. Tuffey pp2 line 24 refers to the use of flavouring agents to mask the unpleasant tasting vitamins or minerals. (Mehansho uses arabinoglactan fibers to mask the taste.) Additionally Mehansho states at column 17 lines 62-64 "One or more flavoring agents are recommended for the embodiments of the present invention in order to enhance their palatability."

Mehansho refers to a means of alleviating the adverse flavor impacts of zinc and iron by providing a reducing environment. Thus it can be seen that there is a general mechanism available for neutralizing the adverse taste effects of these two elements. We also note (as indicated in 2, above) that Mehansho recommends that a flavoring agent be used, in addition to the reducing environment.

The present invention teaches that a balance of elements that may typically on their own be poor tasting can result in a desirable tasting beverage (mixture). None of the citations show this balancing. Each of the citations use another factor, to achieve the result being a taste masking or off-taste neutralising agent. It is thus not demonstrated, nor is it shown to be part of the knowledge of the skilled artisan, to balance off two or more elements (let alone seven elements) to achieve a taste balance.

The present inventor has achieved the taste balancing by first devising a classification for the principal relevant component parts of taste (set out in table 1), and secondly determining (as shown in part in table 4) for each element the impact that variations in concentration have on the taste components.

The motivation for devising the classification of the component parts of a mineral water is on the assumption that was not heretofore known being that it is possible to achieve a mineral balance that provides a superior taste. The aim of the taste classification set out in table 1 is to define those taste components that are principally responsible for taste perceptions in mineral waters. It is to be noted that several element cumulatively effect any given taste component.

Applicant submits that there is no disclosure of the composition as claimed in the instant claims. Thus there is no disclosure of a multi-elemental mineral water with defined levels of the multiple (at least seven) elements to co-operatively balance the taste components of each of the elements such that an acceptable if not a superior tasting drinking water is achieved.

Luk in addition to not disclosing the levels of phosphorous does disclose the levels of potassium of these mineral waters but the levels of potassium fall outside of the levels claimed. There is therefore positive evidence that amongst this set of mineral waters not one has the proportional elemental composition as defined in the claims of the present invention.

None of the other citations disclose the composition as claimed either. There is no disclosure that a superior or acceptable taste can be achieved by balancing the mineral content of a mineral water and accordingly there is no motivation to combine any of Someya, Tufley, Lindon, Mehansho and Dyrr, with one or more of the compositions disclosed in Luk to add phosphorous or appropriate levels of potassium and thereby achieve a better tasting mineral water solely by balancing the minerals used, because the benefits of combining one or more minerals to achieve a balance taste has not been disclosed.

There is no disclosure in any of the citations which elements contribute to given particular taste components, to enable cumulative balancing of the mineral water concerned. It is submitted that the present invention as claimed is thus more than simply varying the concentration and thus, the taste intensity of any single element, rather it is varying the relative concentrations of elements in a manner to cooperatively build a flavor in the manufactured mineral water.

The inventors efforts are more than merely an exercise in trial and error. While it could be said that optimizing one element within a composition is simply an exercise in sampling a range of concentrations, and optimizing taste for two elements may be relatively routine, despite

the fact that the two may influence the flavor of each other. The present invention, as claimed however, define at least seven different elements, each one of which needs to be optimized against six others at varying concentrations. The possible permutations of variable concentrations is enormous and without the guidance of the impact each of the elements has on the relevant taste components as claimed in the present invention (by virtue of the amounts) it is inconceivable that varying respective concentrations for each element leads to a taste optimization.

It is respectfully submitted that the combination of the disclosures in Luk on the one hand, and Someya, Tuffley on the other hand, do not lead one of ordinary skill to the present invention as claimed. Luk does not disclose any mineral water that is within the range specified by the present claims. This is admitted by the Examiner, who states that "the reference Luk discloses amounts in group 1 (sic a) and b within the claimed amounts except for phosphorous (p311). Moreover, none of the waters examined by Luk disclose potassium in the ranges claimed.

The Examiner asserts that it would be obvious to add phosphorous because the addition of phosphorous is disclosed in Someya. Applicant respectfully disagrees. Applicant submits that the combination of Luk and Someya does not arrive at the composition of claim 1. Moreover, Applicant points out that there is no motivation to add phosphorous to any one of the compositions set out in Luk. There was, prior to the present invention, no indication that the overall composition of the defined manufactured mineral water required the presence of phosphorous in the amount defined in claim 1 let alone *any amount*. If one were to add finely divided coral sand to the composition of Luk to achieve phosphorous concentrations within the amounts defined in claim 1, the calcium levels would be well outside of the range specified (they are present at levels of about 50% in coral).

Turning to Someya, Someya does not teach a manufactured water that contains phosphorous present in the range of 15 to 80 mg/L. It is unclear as to what amounts of the finely

divided coral sand may be added to one of the mineral waters disclosed in Luk to provide a mineral water of the present invention. Furthermore it is unclear as to which mineral water in Luk should form the basis of that combination.

In Tuffley, only calcium is included within the range; chlorine is low, magnesium is high sodium is low, silicon is low and potassium is low. Applicant also wishes to point out that phosphate is provided as Ca Glycerine Phosphate, of which there is less than 200ug/g phosphate. That makes the elemental concentration of phosphate very low and much less than the concentration defined in claim 1. Again it is unclear how this combination leads to the claimed invention- it is respectfully submitted that it does not.

Given the deficiencies of the teachings of the prior art, it is respectfully submitted that pending claims 1-42 and 47-52 are clearly non-obvious over the combined teachings of the prior art.

#### *The Rejection of Claims 53-61*

The Examiner has rejected originally filed claims 53-61 under 35 U.S.C. §103 as being obvious over the above-cited references and further in view of Jakubowicz, DE19700368 ("Jakubowicz"). The Examiner cites the above-references for teaching the invention of originally filed claims 1-52, as indicated above. The Examiner cites Jakubowicz for teaching the inclusion of citric acid in beverages and concludes that it would be obvious to add known acids to adjust the pH of beverage, including those of the present invention. He therefore concludes that the invention of claims 53-61 is obvious over a combination of the teachings of the art. Applicant respectfully traverses the Examiner's rejection.

Applicant respectfully submits that a combination of the references as suggested by the Examiner would not render the present invention obvious. As discussed in great detail

hereinabove, a combination of Luk, in view of Someya, Tufley, Lindon, Mehansho and Dyrr does not disclose or suggest the invention of claims 1-42 and 47-52. Given those deficiencies and the silence of Jakubowicz as to any of the features of the claimed invention other than the inclusion of citric acid in a beverage, it is respectfully submitted that claims 53-61 are also non-obvious. It is respectfully submitted that the deficiencies of the prior art in failing to disclose or suggest the present invention are simply not obviated by a reference, Jakubowicz, which is silent as to most aspects of the present invention of claims 1-42 and 47-52, and is relevant only to certain features of the claimed invention of pending claims 53-61. Applicant submits that the present invention is patentable over the cited prior art. Accordingly favorable consideration is respectfully requested.

For all of the above reasons, it is respectfully submitted that the present application is now in condition for allowance and such action is earnestly solicited. Four claims (43-36) have been cancelled and no claims have been added. No fee is therefore due for the presentation of this amendment. A petition for a three month extension of time is enclosed as is the appropriate fee. Small entity status applies to the present application.





The Commissioner is authorized to charge any fee or credit any overpayment to deposit account 04-0838.

Respectfully submitted,

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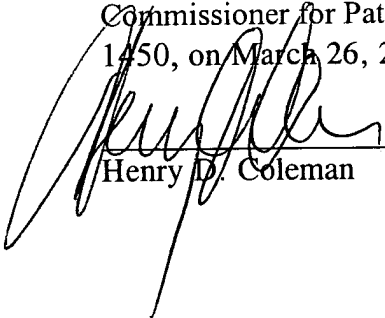
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